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IN TWO SECTIONS

Section I

NATIONAL ASSOCIATION OF ACCOUNTANTS LIBRARY

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Reappraisals and Major Adjustments in Property Values, and Their Effects as Reflected in the Accounts.

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EDITORIAL DEPARTMENT NOTE

Today industry is facing many of the greatest problems which have ever demanded its attention. Some of these problems are closely related, yet each comes in for its share of special attention. Contraction of our credit system has resulted, during the past two and one-half years, in a series of conditions and circumstances which will have to be corrected or alleviated to a considerable extent before we can expect any substantial recovery. In a desperate attempt to dispose of their high-cost surplus supply of commodities and to provide an outlet for a sufficient volume of production to enable them to profit by the advantages of mass production, manufacturers, through their market outlets, have engaged in such an orgy of price cutting that now many of them are selling below actual cost of production. Some who followed this practice have already passed out of the picture and others will follow. Many of these unfortunate failures have resulted from incomplete and inaccurate costs upon which selling prices were based. However, many manufacturers with accurate costs find themselves unable to meet the prices of their competitors, for several reasons. Their labor and material costs may not be any more than those of their competitors, but they find that their overhead, or burden, is comparatively very high. Particular cases of this kind may be the manufacturer who has an enormous excess plant capacity which he does not need for his present volume of production; or the manufacturer who constructed his plant during the period of high material and labor costs prior to 1930; or the manufacturer who has an old plant whose value was written up prior to 1930 as the result of an appraisal. As we proceed farther into the present period of readjustment they find it increasingly difficult to compete with the manufacturer who has entered the field during the past two years with a plant just large enough for present needs and erected at the present low cost of labor and materials; or with the manufacturer who has had the business acumen to see the facts, and the courage to face them, and has brought about such readjustments in the book value of his plant, with the resulting decrease in fixed charges, as to enable him to meet any intelligent competition. Many manufacturers whose fixed assets appear in their property accounts at values far in excess of present replacement costs are beginning to realize that they have sustained a loss that may never be regained. They have decided to recognize such losses and write them off.

In this issue of our Bulletin we are presenting discussions of some of the principles and problems involved in bringing about a readjustment of property values.

Mr. L. H. Olson, the author of the first paper on, "Reappraisals and Major Adjustments in Property Values," has spent about thirty years in the work of making investigations, valuations and appraisals of property values and is now Vice President of The American Appraisal Company, New York, N. Y.

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Mr. Harold V. Coes, whose paper is entitled, "Appraisals and Property Accounting," is Manager, Industrial Department, Ford, Bacon & Davis, Inc., New York City, and he delivered his paper before the New York chapter.

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NATIONAL ASSOCIATION OF
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MAY 1, 1932

REAPPRAISALS AND MAJOR READJUSTMENTS IN PROPERTY VALUES

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AS THIS paper represents a contribution to a discussion of Reappraisals and the Readjustment of Property Values Through Capital Surplus or Earned Surplus, and other economic factors of capital assets, it would seem in order for the appraiser to first lay a foundation of property facts for his consideration of this subject.

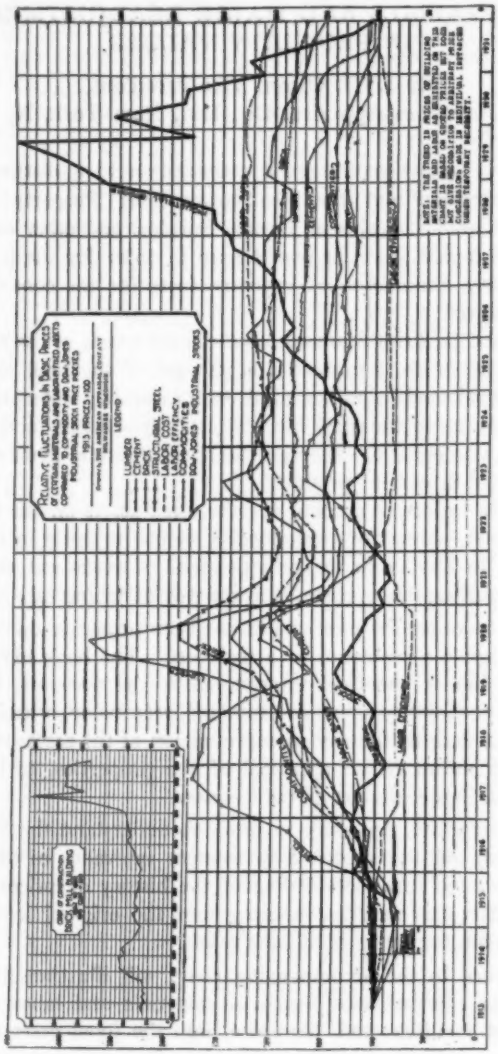
The plant facilities representing the fixed assets in the accounts and balance sheets, represent a large part of the total assets of an industrial, public utility, and merchandising enterprise. In some cases, as in the steel industry, the investment in the fixed assets may be equal to, or be greater than, the total plant capacity as measured in cost of product.

Whether we are to account for the fixed assets on the basis of original cost, or cost of reproduction, is not an issue in this discussion. In fact, with the present trend of costs and values of plant properties, this problem is in the way of taking care of itself.

The accounting for fixed assets has been primarily on the basis of the original investment, or actual cost. The book investment, however, has frequently been restated in the accounts, both on a basis to conform to actual or estimated, reasonable, original costs, and on the basis of the cost of reproduction of the assets currently found, by means of an appraisal of the properties, to be used, and useful in the conduct of the business.

It is, therefore, necessary in order to understand the historical relationship of the recorded investment or value of the fixed assets, to have an understanding of the history of prices of material, labor, and services entering into the original investment, and the reproduction cost of such assets.

Reference to the accompanying chart will illustrate the price trends for representative items of materials and labor entering into plant facilities, and, therefore, into the fixed asset accounts during recent years.


RELATIVE FLUCTUATIONS IN BASIC PRICES
LUMBER
CEMENT
BRICK
STRUCTURAL STEEL
LABOR COST
LABOR EFFICIENCY
COMMODITIES
DOW-JONES INDUSTRIAL STOCKS

The general trend of prices from 1852 to 1932 is represented by a typical industrial building, in the small inserted chart. The main chart shows in greater detail, the range of prices from 1913 to 1932 of representative materials and labor entering into industrial plants. The chart also shows for comparison, the average prices of general commodities, and of industrial stocks on the basis of Dow, Jones indexes.

As will be seen, the price indexes reached their lowest level since the Civil War, about the year 1898. Investments in plant facilities from that date, until 1929, were on the basis of a continuously rising price level. Those who invested in plant properties during the decade from 1919 to 1929 did so on the price basis that required twice the capital that was necessary to those who invested in similar properties in the decade from 1900 to 1910. Those investing in similar properties in 1932 will do so on a very substantially lower cost basis.

The period from 1919 to 1920, was one of great expansion in productive facilities. The investment in a large percentage of our most productive equipment, was made during this period. This was also a period of mergers, combinations, and refinancing, most of which were made on the basis of market values then prevailing. Therefore, to a large extent, our industry is capitalized on this high cost basis.

We have now gone through nearly three years of readjustments, during which there has been a marked progress in the reintegration of productive facilities. Changes in products, decrease in demands, altered market conditions, inadequacy and obsolescence of properties have caused machinery, buildings, and plants, to be abandoned, consolidated, and re-arranged.

Most industries and many manufacturing concerns are suffering from excess investment in plant facilities, thus burdening their capital accounts and production costs. These conditions are the result of:

1. Plant properties acquired at a cost or restated on the basis of values during the high cost period prior to 1929 and in excess of present values.

2. Plant facilities with a capacity in excess of the production requirements for present and prospective business demands.

3. Unbalanced, or partially obsolete, or inadequate facilities resulting from readjustments, and changes to meet the requirements of new products and changed marketing conditions.

These conditions in the properties and in the accounts, result in:

1. Balance sheets with fixed assets and capital accounts overstated in relation to present market values and the volume of business available.

2. Operating statements that include fixed charges for depreciation, insurance, taxes, etc., in excess of that justified by the normal asset requirements and volume of present and prospective production.

This unbalanced condition of the accounts in their relation to the present and potential business may be remedied through a reappraisal of the assets and the restatement of accounts on the basis of the investment, depreciation reserve and the fixed charges consistent with the assets useful to the business, and the anticipated production requirements.

This reappraisal of the assets would (modified by specific conditions governing in the individual case) include a careful study of the economic facts and physical characteristics of the properties, and an inventory of all the assets, land, construction, buildings, machinery, equipment, tools, drawings, patterns, etc., classified in accordance with their usefulness to the business, under such divisions as:

1. Are necessary for the normal conduct of the business at the estimated capacity requirements.

2. Have an uncertain partial or potential utility to the business for occasional or part time use, or for holding for possible future development, but not having full utility for the normal anticipated requirement.

3. Not having utility to the business and which could be disposed of, or retained at salvage or sales value, as an unused investment.

The assets thus inventoried would be appraised on the basis of costs, values, and depreciation applicable to the different classifications and units of property, on the following lines:

1. The Fully Useful Property on the basis of its present cost to replace, (or other basis more consistent with the accounting

practice) with determination of accrued and annual rates of depreciation consistent with the remaining expectancy of serviceable life.

2. The Partially Active Property on the basis of its cost to replace new (or as second-hand equipment where warranted) with determination of accrued depreciation consistent with its actual serviceable value, and an estimate of the annual amount of depreciation consistent with its prospective utility.

3. Unused property on the basis of its value as inactive assets, and a reasonable selling price or salvage value, upon which little or no further provision for depreciation would be required as long as it was held as inactive property.

The classification of the property in accordance with its utility would be based upon a proposed production program determined in collaboration with the client's staff, industrial engineers and accountants, on the basis of the statistical information available with reference to the industry and the individual business and estimated production possibilities over the near future period.

A restatement of the plant accounts and the fixed charges on the basis of such an appraisal, would result in:

1. A write-down of the fixed asset accounts with corresponding adjustments in the capital or surplus accounts.

2. A restatement of the depreciation reserve account with corresponding adjustments to capital or earned surplus.

3. Revised depreciation charges based upon the written-down assets in accordance with their serviceable utility in production.

4. A saving in maintenance cost resulting from the segregation of the non-useful assets, and protecting, storing or disposing of them.

5. A possible reduction in real estate and personal property taxes through the segregation and write-down values on the non-usable assets.

6. A reduction in insurance premiums through a restatement of insurable values, and insuring the non-usable assets at actual "cash value."

The actual accounting, engineering and financial procedure resulting from such an appraisal, would vary with the individual case. In different cases the non-usable land, buildings, machines and equipment might either be segregated as an accounting pro-

cedure, transferred to a subsidiary company, or be sold or offered for sale.

During the recent period of reduced production requirements, there has been an extensive movement in the reintegrations of plant properties to effect more efficient and economical production units.

This has ranged all the way from abandonments or rearrangement of individual units, production processes, and the departments, to the abandonment of entire plants and the concentration of production in plants more advantageously equipped or located.

The appraisal service should be adapted to the accounting and engineering requirements in the individual case, but ordinarily would preferably be a detailed, departmental appraisal that would permit the future accurate accounting for each classification and individual unit in accordance with future property changes in location and utility.

We are now well into the period of readjustment when the results of the reintegration of plant properties and the lower price levels have had their effect upon the plant values. Competitive productive facilities can be acquired on the basis of a lower investment, and operating costs and prices for products are on a lower level.

Our current business literature and financial statements evidence the fact that the fixed assets are being reappraised and restated on the accounts to conform to the changed market conditions, and we are asked—

(1) "Should major readjustments in property values be made to capital surplus or earned surplus?"

As appraisers, we treat our problems pragmatically in accordance with the actual facts which we have to analyze. If we are to correctly record capital gains and losses, in distinction from earnings from operations, then the penalty must fit the crime.

It is here assumed that a reappraisal is for the purpose of revising the stated property values in the accounts or in a prior appraisal, to conform to property facts and values as of a later date, and that this reappraisal is to be used for the correction of the accounting records over the elapsed period. Such a reappraisal (or retrospective appraisal) must set up the property

and valuation facts so as to clearly differentiate between capital and earning adjustments as follows:

(A) Capital adjustments:

1. Changes in the cost basis resulting in changed market conditions.

2. Changes in the cost of property acquired as a gift or bargain in bringing them to a higher cost basis.

3. The restoration of costs for property previously written off, and found to be in useful service.

4. Other property gains or losses from abnormal causes that could not be reflected in operating costs, without presenting an incorrect picture of earnings.

(B) Earning Adjustments:

1. Actual depreciation to cover such deterioration and obsolescence that should have been charged to operations, in distinction from the depreciation charges taken in the accounts.

2. The losses from ordinary abandonments and reconstruction found not to have been provided for in the accounts either through prior depreciation charges or losses taken on deductions.

If "investments in plant properties are nothing more than deferred operating costs, awaiting to find their way into the cost of products" then the cost of operations, and the cost of products should absorb their proportional share of the value of the assets used or consumed in the production of the product. To absorb more than such fair proportional share will not present a fair picture of the actual earnings or of the earned surplus.

It appears to be economically sound that the producers who invest capital in an enterprise, should assume the responsibility, and the benefits and hazards of the fluctuations in the market value of such investment. To some degree he has the option of renting his facilities instead of investing his capital.

The operating costs, however, must absorb reasonable charges for depreciation and maintenance of the properties. If these reasonable charges have not been made, the losses are found to occur, through reconstruction or abandonments of the assets, then the amount of such losses should be a proper charge against earned surplus. If, however, all reasonable charges for depreciation and maintenance have been absorbed in operating costs, and in addition

there are substantial losses in property values from abnormal causes, such as fire, storm, or extraordinary obsolescence, then the loss is in capital and not one that can reasonably be expected to be charged in the cost of products recovered in prices to the consumer or reflected in earned surplus.

(2) "Have Corporations made an income during the past 25 or 30 years considering depreciation—or obsolescence?"

I doubt if our statistical or accounting records now contain adequate information upon which a convincing answer to this question can be given. The answer to this question would probably involve a better differentiation between capital gains and losses and operating gains and losses, than is available from our existing accounting records.

Unquestionably if we had a factual accounting differentiation between capital surplus and earned surplus, over the past 25 or 30 years, the evidence in reference to income would be substantially different. The capital gains (unearned increment) from 1898 to 1929, and the capital losses from 1929 to 1932 would then have to be eliminated from income and earned surplus.

The extent to which modern business requires enormous investments in varied, complicated, long lived facilities, subject to increasing hazards for inadequacy and obsolescence, has greatly increased the importance and difficulty of correct fixed asset accounting.

This capital, once created, should be preserved intact through adequate depreciation reserves, by means of charging an adequate allowance on the investment through depreciation into property costs. The products should bear only a reasonable charge for the capital used or consumed in its production. The value of the capital and the amount of the charges to production will rise and fall with changing market conditions.

Correct accounting, clearly differentiating between capital and income, carried forward through property changes, the rise and fall of the medium of exchange, receiverships, and liquidations, earthquakes, fires, etc., would permit the economist of the future to determine if corporations made an income over periods of a quarter of a century.

Such accounting would meet Vernon Burt's requirement for

more adequate record of capital goods as the missing link, "that caused economists to fail us in our hour of need."

(3) "Can Accounting or other control, disclose the tendency toward excess facilities and be applied to check such tendency?"

It would appear reasonably possible to organize statistical data adequate to disclose the trend of demand and the tendency toward excess capacity of facilities in an industry, and therefore applicable to the check of such tendency.

The controlling of the individual plant capacity in relationship to the capacity of the industry, is the major problem—and there is the rub—it involves the surrender of individual initiative and freedom of action.

The relationship of the investment in, and the capacity of, the actual facilities, to the productive requirements and the amount in the fixed asset account of a specific business, requires the coordination of the property records with the property values. Any system of record that would reveal and maintain the relationship between demand, capacity, and excess facilities of an individual business, would require adequate plant property records and a coordination of accounting, appraisal and engineering services.

The appraiser can analyze the property facilities and capacities of the individual plants; the accountants can record the property facts in the books of account, and the financial statements of the individual business; and the economist can so coordinate this information and determine the productive requirements, and capacities in the industry. Of course both the appraiser and the accountant, may to an extent, also be economists.

Within the industry, however, there is still the question of the survival of the fittest of the industrial enterprises, and individual capacities become obsolete and perish by the wayside.

(4) "Can Real Income be more accurately disclosed as the marginal wave rises and falls?"

Yes, but this also requires that we distinguish more clearly between the accounting for the capital gains and losses, and the income resulting from operations.

As the marginal wave rises and falls the value of capital changes, and where this change is recorded in the accounts it must

be clearly separated from the operating profits and losses before real income can be accurately disclosed.

This rise and fall of capital values also makes changes in depreciation, insurance and tax charges entering into the costs of operation that must be met before real income can be ascertained. Real income must be measured against the purchasing power of the dollar, and must be computed after all real charges have been met.

I will have to leave to the accountants and the lawyers the reconciliation of the property and economic facts, with certain arbitrary accounting and legal requirements as to surplus available for dividends and other financial requirements.

SHOULD MAJOR READJUSTMENTS OF PROPERTY VALUES BE MADE THROUGH CAPITAL SURPLUS OR EARNED SURPLUS?

By Victor H. Stempf, Resident Partner
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ACADEMIC accounting prescribes that fixed assets should be reflected in the balance sheet at cost, usually the amount of capital invested. This theory assumes that the operations of a business may be carried on profitably during the life of the fixed assets, although their cost becomes in effect a deferred charge against subsequent operations, to be absorbed in the form of annual depreciation. Given a business soundly financed and well-managed, in normal times the rule is satisfactory. But there are various tangents at which the average business departs from the ideal:

(a) The factor of excess facilities, in many of our major industries, is recognized. Other things being equal, this distorts the ratio of plant investment to volume of sales, and in many cases increases unit cost of depreciation beyond the endurance point.

(b) Obsolescence of plant or equipment in one enterprise as compared with another and the resulting disparity of competitive selling prices have the same effect upon the unit cost of depreciation of the less fortunate business.

(c) Competition between plants built and equipped in differ-

ent periods of the economic cycle: the one at low price levels, the other at high prices, creates the same disturbance when low prices again prevail generally.

These examples, and the innumerable variations of them, serve to illustrate the causes which give rise to the consideration of the downward adjustment of values of fixed assets; the fundamental aim in all cases being to relieve future operations of excessive depreciation charges.

At present, it may be assumed that we are in the quicksand bed of a valley in the curve of general price levels, with the prospect of crawling out rather painfully and slowly. If this be so, we may as well face the music and take our loss on fixed assets now, adjusting them to a base which, expressed in terms of subsequent depreciation or amortization, may permit of a reasonable profit on a constricted volume of product to be sold at reduced unit prices.

In so far as fixed assets are concerned, the balance sheet does not disclose, necessarily, the true value of the company's capital stock in the sense of market or liquidating value, but discloses rather the sound value of such assets to a going business. It may be said, however, without fear of contradiction, that when depreciation on values at which fixed assets are carried assumes a disproportionate ratio to the selling price of products, such values are then no longer sound. The proportion of capital invested in fixed assets in manufacturing businesses is a very material factor. The ratios of fixed assets to total assets in the case of lumber mills and paper mills run as high as 75%, tire manufacturers 60%, and automobile manufacturers 55%. In contrast, among trading enterprises, department stores are probably highest with approximately 33%, other trading enterprises running down to 10%. It should be noted, however, that the percentages are misleading to some extent by reason of distinctions between owned and leased premises, etc. This is of such importance in the balance sheet, that the question of adjustment of capital values cannot be ignored. With the ever increasing trend toward widespread holdings of corporate shares, the investor is entitled to know the facts and to shape his investment policy accordingly. If we fail to adjust fixed asset values, both the present stockholder and prospective investor

are misled. If the adjustment be made, no one is misled, although the present stockholder may be harmed—if the truth can harm anyone.

Recognizing that major readjustments in property values should be made, the question arises as to how the change should be effected in the balance sheet. The revision of the asset value must be reflected in an equivalent reduction in the net worth or capital section on the other side of the statement. To some extent, the adjustment is affected by the character of the values at which fixed assets now appear in the statement. Existing values may be cost or they may be appraised values. In the latter case if they serve as the basis of issuance of capital stock at the inception of a business or as the result of a recapitalization, such appraised values have become cost to the business. Net worth, broadly defined, refers to the excess of assets over liabilities, and in the case of a corporate balance sheet is represented by the aggregate of all issues of capital stock and all classes of surplus. Surplus falls into two general classes:

(a) That which represents the undistributed accumulation of realized earnings of the corporation and (b) that which has arisen from all other sources. The integrity of earned surplus should be meticulously guarded, whereas distinctions in other kinds of surplus are more or less academic, except in certain classes of surplus representing appropriated earnings which may be subject to charter requirements. The term capital surplus may be applied to all classes of surplus which have arisen other than through earnings. Such surplus may have been created (a) by allocation of a portion of the proceeds of sale of capital stock, (b) by donation, (c) by appraisal of assets, (d) by acquisition and retirement or resales of the company's own stock at a price lower than that at which originally issued, or (e) by reduction in par or stated value of the company's capital stock. It is of material significance to bear in mind the fundamental distinction between earned surplus and capital surplus in considering the adjustment to be made in respect of the reduction in value of fixed assets. The cost of fixed assets is expected to be recouped through operations, i. e., through depreciation charged against current income. It is apparent, therefore, that the adjustment should come out of earned

surplus. If the immediate adjustment were not made, the aggregate of depreciation would be charged ultimately to earned surplus. Assuming, for the moment that this conclusion is inescapable, the readjustment of values of fixed assets, if recognized, presents no real problem of accounting. If unappropriated earned surplus is insufficient to meet the charge the balance must be debited to capital surplus, and if no capital surplus exists one may be created by reduction of par or stated value of capital stock. The interesting phase of the subject lies, however, in the practical question of whether such a readjustment may be made through capital surplus without touching existing earned surplus. The importance of this latter question relates to the ability of a corporation to continue the distribution of cash dividends. The Delaware law makes a logical statement regarding dividends:

"The directors of every corporation created under this chapter, subject to any restrictions contained in its certificate of incorporation, shall have the power to declare and pay dividends upon the shares of its capital stock * * * out of its net assets in excess of its capital."

Net assets are defined to mean fair values and, broadly speaking, the law may be interpreted to mean that if the adjustment of excessive values would wipe out book surplus, then the corporation cannot pay dividends out of such previously existing book surplus. Again, broadly speaking, the Delaware law permits the payment of dividends out of any and all kinds of surplus, whether earned surplus or otherwise.

Now, the problem of paying dividends is not alone a matter of law, but also a practical question of finance. A corporation may have huge earnings, but if such earnings are expended immediately for additional facilities, it may not be able to pay dividends until such capital expenditures have been otherwise financed. On the other hand a corporaton may have no earned surplus but through recent sale of excess facilities it may be in an excellent position as to working capital and well able to make a cash distribution out of capital surplus. Such a distribution, obviously, is not a distribution of earnings, and, therefore, must be a return of capital—a partial liquidating dividends. The payment, however, is not an impairment of capital in the legal sense, the legal capital

being that allocated to capital stock account and which thereby has been pledged as a cushion for the protection of creditors. I have digressed briefly to emphasize the significance of adjusting fixed asset values through capital surplus, leaving earned surplus untouched. To do so may disguise the character of subsequent distributions to stockholders, and while that which is later distributed may appear as a charge against earned surplus, it may be in fact a partial liquidating dividend. From the viewpoint of taxation this may be of material importance to the recipient, in a period in which income tax rates will be higher than at present.

Let us suppose that a substantal portion of plant and equipment has been acquired, subsequent to the inception of the company, by merger of other companies and the issuance of stock in consideration therefor. Such plants should have been appraised at date of acquisition with due consideration to replacement value, excess facilities, etc., but in most cases the acquisitions have been capitalized at full cost, thus concealing what is in part a purchase of good will. The case is clearly an exception and involves, in fact, a correction of a previous error in principle. The adjustment in such case would be made properly through capital surplus, not alone for the revision of the present book value of plant but also by reason of excessive depreciation charged against earned surplus in the past. Similarly, it a follows that any downward revision of values in respect of accounts previously inflated on the basis of appraisal should be charged against capital surplus which was created as the result of the previous appraisal. In regard to the amortization of the true cost of fixed assets, however, it seems to be inescapable that the cost should be absorbed through earned surplus, whether in the form of annual depreciation or major readjustment of value.

APPRAISALS AND PROPERTY ACCOUNTING

By Harold Vinton Coes, Manager, Industrial Dept., Ford, Bacon & Davis, Inc., New York, N. Y.

PLANT, equipment and fixtures is usually an item representing a substantial proportion of the total assets on the balance sheet of most industrial and public utility companies.

Accounting for these assets in a manner that is flexible and reasonably accurate many times leaves much to be desired. Frequently this is because the property records are in such condition that reliable information can not be secured. An appraisal is then made of the property. Unfortunately in too many instances sufficient consideration is not given in advance as to what present and continuing purposes the appraisal is to serve, with the result that in the majority of cases the appraisal organizations are limited by their clients to a mere inventory of property, a determination of condition and of accrued depreciation. The most usual complaints against the ordinary type of appraisal or valuation report are:

1. Inflexibility.
2. Becomes obsolete very quickly.
3. Inadequately serves the operating and accounting departments.
4. Particular items of plant are buried in a mass of detail.
5. Does not permit of its use as a continuing record.
6. Makes no provision for retirement, transfer or increases of property.
7. Does not permit accurate future depreciation accounting.

There are large numbers of appraisal reports in book form buried in the vaults of industries throughout the country and serving no useful purpose.

Industrial enterprises rely upon their books of accounts for statements of assets and liabilities, profit and loss, additions to or abandonments and destruction of property, inventories, etc. Subsidiary records are carefully designed and kept up at considerable expense to show in complete detail cash receipts and disbursements, accounts receivable, materials and supplies, accounts and notes payable, sales, manufacturing costs, and the like. There is a record in inventory form of everything except items of plant. As a sule more attention is paid to the accounts of items of stores and petty cash than to the item of manufacturing equipment. It is generally true that as to the largest item frequently in the statement of assets, the plant, there is the least detail in the records in usable form.

Some form of report is needed that will make the cost of such a statement of assets an investment rather than an expense. Obviously to be usable as a current record, the report must be adaptable to the requirements of the accounting, financial and operating departments. The following are the major elements of the problem:

1. To provide an inventory and valuation of the property, accurate as to descriptive detail and pricing (whatever basis of pricing may be used).
2. To present an itemized record of plant and equipment which should agree in total with the Plant Account in the General Ledger, if the Plant Account has been properly kept. If not, to account for the difference.
3. To price the inventory as in item (2), to reflect insurance values at the date of the inventory.
4. To design the Plant Account record forms so as to readily permit the Plant Account being kept up to date and periodically audited.
5. To permit the Plant Account records to be readily revalued periodically for insurance and other purposes without the necessity of a reinventory or a rewriting of descriptive details, except in particular instances.
6. To set up all detail by plants, by buildings, by floors, by departments and by classification of property and in groups carrying the same depreciation rates.
7. To permit readily the recording and accounting for additions, retirements, improvements, destruction and transfer of items of property.
8. To permit the details as in items (6) and (7) to be corrected to date at all times.
9. To establish summary forms which render it usually unnecessary for the treasurer, comptroller and operating officials to refer extensively to the details and make these summaries self-perpetuating.
10. To design the system and organize the work so that—
    (a) The initial cost of the work is reasonable.
    (b) The upkeep of the records is inexpensive and easily accomplished.

Modern bookkeeping, tabulating and statistical machines readily permit the above to be accomplished.

The mechanics of valuation are briefly these:

1. Prepare an inventory of physical property either entirely by inspection in the field or from reliable records checked by inspection. Concurrently the physical property is inspected for condition.

   Inspection for condition makes it possible to determine with reasonable accuracy whether the amounts included in operating expenses in the past have been sufficient for the proper maintenace of the property.

   Inspection for condition by those competent to do so, reveals the true state of the property much more accurately than any theoretical applied depreciation based on life tables. In the first place, life tables take no account of partial renewals which are going on constantly in the regular maintenance of the property. In the second place, it is hardly probable that life tables which are applicable to one property will be even approximately applicable to another property operating under different conditions. Depreciation rates for each property must be determined from the facts by the inspection of that individual property and only in this way can they approximate the real facts.

2. Price the inventory so prepared on some predetermined basis—
   (a) Book cost (seldom available).
   (b) Estimated historical cost.
   (c) Average of pre-war prices.
   (d) Average of prices ruling over a period of years.
   (e) Cost to reproduce new as of a given date.
   (f) Price at the estimated level or average of a given period in the future.

It is obvious that to be fair all prices for materials and labor must take account of local rates, conditions and customs. These differ to some extent with each locality.

So far the priced inventory, irrespective of the theory upon which the pricing is done, represents only the bare material and

labor cost of the physical plant. It is necessary in order to arrive at a total construction cost, when the actual facts are not available, to add allowances based on experience on other similar work for—

(a) Omissions, incidentals and contingencies, covering such items as cost of purchasing, store-keeping, wastage, payroll and other insurance, timekeeping, watchmen, permits, inspection, protection of work, damages during construction due to storms and numerous other items which will vary somewhat as between different pieces of construction. Many of these incidental expenditures are often allowed for in calculating inventory quantities and in making up the unit costs.

(b) Preconstruction cost, representing the expenditure made prior to construction for preliminary plans, surveys, reports and time and expense of promotion.

(c) Organization and legal expenses, covering the services of general officers of the company in the general direction of the construction work and of the corporate affairs during the construction period and preparation for the beginning of operation and also for legal services and expenses in connection with such activities.

(d) Engineering and superintendence, covering the time and expense of the engineering force engaged on the work, including consultants, architects and inspectors, and also the general supervision of construction which may or may not be consolidated with the engineering organization.

(e) Interest and taxes during construction, being the accruals on these accounts during the period of construction and prior to the beginning of complete operation.

(f) Cost of financing, covering only the actual normal expenditures of financing in distributing to investors the securities issued by the company.

The above items are as clearly a part of the construction cost of placing the physical property in existence ready for service as

are materials and labor, and must be added to show the complete direct expenditures of the company for the construction of physical plant.

Property Accounting

The property accounting records then should provide the following information:

1. Location by building, floor, department and section.
2. Account number (property classification).
3. Installation data.
4. Annual rate of depreciation.
5. Estimated cost (based on a predetermined theory of pricing).
6. Estimated cost of Reproduction New on a basis of prices at the inventory date (for insurance purposes).
7. The initial cost of the item of property—
   (a) Freight.
   (b) Installation cost.
   (c) Foundation cost.
   (d) Estimated amount of depreciation at inventory date on each basis of pricing, items (5) and (6).

These records can then be classified according to—

(a) Plant.
(b) Building, floor, department or section.
(c) Account.
(d) Nature of property.

It should be noted in passing that the property record custodian must be advised at all times of—

(a) purchases
(b) transfers
(c) discards, and
(d) destruction

of buildings, machinery and equipment. The records should show the transfer and location record of the item recorded thereon.

Provision should also be made to enter periodic revaluation details, and such operating historical data as may be required by the management in each individual case.

The records should be verified by inventory reports from each department or plant from time to time to guard against omissions or additions, deductions, transfers, etc.

For simplicity and accuracy the record number, card, loose leaf or whatever form used, should be the property item number as well. Thus the record may be transferred or filed in the abandoned or discarded property file.

The property record should be set up to act as a subsidiary ledger to the Plant Account on the general ledger, and show description, location, quantity, reference number, company number and cost (with the debits and credits), depreciated value, insurable value and similar data, transfer date, location or discard, etc.

Revaluation can be subsequently made as of a given date by the use of adjusting percentages correctly established in many instances.

The advantages of such a method of property accounting and valuation and report set up along the lines discussed enables the management to promptly secure the essential facts for the formulation of management policies such as—

1. Determination of the invested capital in a given plant, department, or section in order to determine the break-even point.
2. Determination of the invested capital behind a given line of product to ascertain—
   (a) Fixed charges.
   (b) Maintenance charges
   in order to make studies of the relative profitableness of various lines of product.
3. For budget control of—
   (a) Depreciation charges.
   (b) Capital expenditures.
   (c) Capital retirement.
   (d) Insurance.
   (e) Maintenance charges.
   (f) Reserves.
   (g) Costs.
4. Determination of insurance requirements—
   (a) Protection.

(b) Proof of loss.
(c) Speed up adjustment.

5. As a basis for determining some of the essential factors for costs, standard or otherwise.
6. As a basis for comparing relative maintenance and operating obsolescence.
7. As a basis for determining the residual value of fixed assets.

VALUE OF APPRAISALS TO THE COST ACCOUNTANT

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AN APPRAISAL, to serve its best purpose and be of the most value to the cost accountant, should be prepared in property ledger form. It should be so classified as to follow exactly the classification of property accounts as used by the cost accountant. This classification of accounts should be furnished the field appraisers and should be fully discussed with them, so that each item or unit of property appraised will be automatically included by the appraisers under the proper account.

The appraisal should be so arranged as to show values of all properties by locations, that is, by buildings, floors and departments. If floor plans are furnished, all departments should be properly numbered, indexed and shown thereon. The floor area of each department should show both in the typewritten reports and on the floor plans. In the case of building values, or values of piping systems, wiring systems or other values serving two or more departments, the appraisers' values should be distributed against the various departments according to a definite formula to be furnished by the cost accountant or the executives of the company. The field appraisers will be of great assistance in discussing and adjusting the various departmental boundaries and areas.

The sheets upon which the appraisal is typed should be so arranged as to show the following data:

1st—Classification.
2nd—Location by Buildings and Floors.
3rd—Location by Departments.
4th—Description.
5th—Date and reference as to original acquisition.
6th—Original Cost.
7th—Replacement Cost at date of appraisal.
8th—Date and reference as to final withdrawal.
9th—Disposition of charge when withdrawn or disposed of.
10th—Separate report in summary form showing replacement value of all items of fixed properties, arranged in exact accordance with the company's classifications; accrued depreciation at date of appraisal as computed by the appraisers; net sound values after giving effect to accrued depreciation—and—net values upon which to place proper insurance coverage.

With such an appraisal, the cost accountant is equipped with a document which should be of real value and assistance to him.

It comes to him complete, ready for his immediate use in posting the current additions to changes in, and withdrawals from the property.

It distributes for him the many undistributed property costs over which he has had so many headaches.

It shows him just what items are to be excluded in placing proper insurance coverage on the properties—it eliminates all items which ordinarily wouldn't burn in case of fire and which are excluded in the insurance policies. It includes all architects' and superintendence fees on these items, it includes all proper overhead charges on these same items, and it automatically distributes the proper proportion of the original cost, together with cost of all changes down to date against them.

It gives him a complete record of all existent properties, showing date of acquisition, document reference under which each entry was authorized for posting, clear and understandable description of each item or unit, its location, original cost, present replacement cost, and is arranged for recording its transfer, sale or other disposition.

It gives him an accurate record of accrued depreciation, giving full effect to all elements usually considered in computing depreciation, this record of accrued depreciation being suitable for adjusting the depreciation reserves and surplus and other accounts after discussion and authorization by the proper executives.

It gives him values properly classified and distributed, upon which to compute annual depreciation, showing side by side, the original cost and present replacement cost, so that he may discuss intelligently with his superiors the ratio of depreciation reserves to original cost as well as replacement cost; the advisability of computing annual depreciation charges upon either of these values and its influence upon present and future profits; the investment and value in any particular class of equipment, in total, in any particular building, upon any particular floor, in any particular department. I believe we've all been placed, at some time or other, in the embarrassing position of having the Big Boss ask for the cost, or the values of some particular class of equipment in its entirety throughout the plant, or in some particular building or department.

Such an appraisal as I have described gives the cost accountant the entire information at a moment's notice—that is if, after once having the appraisal prepared, he keeps it up properly. It is readily maintained and should be periodically revised and brought down to date, giving effect to price fluctuations, changes in depreciation through the influence of repairs, maintenance and rehabilitation and physical changes in the properties themselves.

Such an appraisal costs more to prepare than an ordinary so-called standard insurance appraisal, in which little attention is paid to the client's classifications and in which no attempt is made to distribute the values by departments or to show original cost. But the difference in cost between these two types of appraisals is small compared to the difference in results secured. In the one case, it is true, we have true and accurate values, but put up in such form as to be suitable for reference only; in the other, we have a live, active, working and workable record, telling us the whole story in a well-ordered, co-ordinated form.

Let us see now what are some of the things we can do with our appraisal in these times of industrial and commercial distress

and depression. The first thing we find is that our plant can be replaced for considerably less than the cost as shown on our books.

Should we not, therefore, readjust our insurance coverage and avoid the payment of excess premiums, thus making a direct saving in expense and a corresponding increase in profit. Incidentally, let me warn you against the arbitrary reduction of insurance coverage because some magazine or newspaper writer boldly announces to the world that commodity prices, or building prices, or machinery prices, or any other prices have receded a certain percent. Don't reduce it arbitrarily even though the recognized index of prices shows a reduction of a definite percent. These percentages are averages and not in any way applicable to your particular properties. One of our Michigan clients tried it. A contracting firm sent him some advertising literature in which they advised that their records showed a drop in building costs throughout their field of operations of 35%. A magazine article stated that machinery and equipment costs had receded 33 1/3%. The client figures that, including the drop in prices and depreciation, a reduction of 40% in his insurance coverage would be about right, so he reduced accordingly. About three months later he suffered a bad partial fire loss—he was a heavy co-insurer under the policy clause—and it cost him some $55,000 to find out that his dope was wrong. No *average rate* of decline will accurately cover *any* property. Your insurance policies tell you that the company will pay *you* what it will cost *you* to replace with like kind and quality, at the date of the fire, less depreciation, however caused. No average rate can apply, because no two commodities have declined in exactly the same ratio. The only way to determine the actual recession, the net real value, is through careful inventory and appraisal. The present cost *to you,* in your present business in your present locality, less the depreciation accrued on *your property,* is the amount upon which to insure and settle fire losses.

But to get back to our subject again. The present replacement value, we have observed, is less than our cost. Should we, therefore, continue to charge annual depreciation against income, upon costs which are higher than the same properties can be replaced for? This is a question for executive study and decision, not for

the appraiser to decide for you. He can show you the picture, but the decision rests with your executives.

We find that in addition to the decline in prices, our plant is operating at but 20% capacity. In other words, but 20% of our machinery and equipment is being used. Should we, therefore, continue to charge annual depreciation on the whole properties against income when but a small part of them is being actually used, subject to actual wear and tear? Should we not give considerable study and thought to this subject and adjust our depreciation charges accordingly? Should we not transfer the machinery and other equipment not being used, to an account labeled "Reserve Machinery and Equipment," or something like that, and at least reduce our depreciation rate for the period in which it is idle, to a very nominal one, transferring the various units back to the active equipment accounts by journal entry when they are again put into active service, and from then on charging the full depreciation rate again? Would we, if we had a plant of but 20% the capacity of our present one, charge against operations depreciation on a plant five times as large? Why then should we continue to charge depreciation on the 80% which is idle, any more than we would if this machinery and equipment were still in the manufacturers' or dealers' warehouses? These are but a few of the questions which are confronting industry today and which are being asked us by our clients.

With our appraisal we have a new distribution of our fixed asset costs and values and are now able to compute, accurately, departmental overhead charges, machine hour rates and any of the other charges to cost which are so closely related to fixed asset values.

In closing, permit me to express a few thoughts on depreciation. Many are the elements entering into the discussion of this difficult subject. Age, wear and tear, condition, inadequacy, inutility, obsolescence, are a few of the much discussed elements of depreciation, but how much consideration is given to *management?* Management can make or break the economic value of an industry and is surely an important element in actual depreciation. We have seen case after case, where with new plants, new and modern equipment, perfect factory layout, and exceptional product, the

business has lost money and has gone broke because of poor management, poor financing, poor sales policies—all management factors, and later have the same machinery, the same buildings, the same layout, and the same product, made into a profitable business by competent management.

Today it is almost impossible for any management, no matter how good, no matter how competent, to make a satisfactory showing of profits as compared with the two or three years prior to this accursed depression.

Should we not therefore take careful inventory of ourselves, of our particular industries, and get back to earth, adjust our books, our values, our operations, our overheads, all of our activities, to present, rather than past conditions, remembering that the fall was a long one and that the bottom is hard and barren, that it's a long way back to the top again, and that in our weakened condition we shall be a long while getting back.

How simple it would be if, instead of considering 1927, 1928 and 1929 as normal years and 1930 and 1931 as sub-normal, we would consider those three years as abnormal and the present time as normal. If we will only consider present sales and present markets as normal and adjust our affairs and businesses accordingly, carefully budget our expenses, reduce our direct costs, reduce our overheads, reduce depreciation charges and every other expense item to the lowest possible degree, write off and forget our past abnormal experiences, we'll be showing a profit almost from the very start and the present depression will soon be ended.

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